

BEARING PRESSURE BALANCE APPARATUS

ABSTRACT OF THE DISCLOSURE

5 The present invention provides a method and apparatus for balancing the pressure across a front bearing in a compressor housing. The present invention may protect the bearing from lubricant migration by eliminating pressure differentials across the bearing. When a blower or fan is running, the bearing experiences the same pressure differential that is across the blower.

10 Unless this pressure is balanced, lubricant may migrate from the bearing very quickly. The present invention may provide a pressure balance and sealing across the front bearing of a blower or fan. A plurality of grooves on the face of a compressor impeller and a plurality of grooves on a compressor shaft surface restrict the gas flow to balance pressure across a bearing. Alternatively, a

15 labyrinth seal may cooperate with a plurality of grooves on the face of a compressor impeller to balance pressure across the bearing.